Dept. of Horticulture Mimeograph
Publication Series No. 205
Revised March, 1960

CHEMICAL WEEDING OF VEGETABLE CROPS 1960

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3/60 - 3,000

The Ohio State University cooperating with the U.S. Department of Agriculture
Agricultural Extension Service, W. B. Wood, Director, Columbus, Ohio
Distributed in furtherance of Acts of May 8 and June 30, 1914

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CHEMICAL WEEDING OF VEGETABLE CROPS - 1960

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THE following information and suggested weed control practices have been prepared for use by Ohio vegetable growers during the 1960 season. Several new herbicides have been added to the list based on research results of the past several seasons.

Some General Precautions

1. Study your weed problems and determine if and where chemicals might be necessary in your weed control program.

2. Before using any herbicide - READ THE LABEL -. Safe and lawful use of a particular chemical is clearly stated on the label.

3. Keep accurate records of the date of application of an herbicide, rate used, stage of crop development, etc.

4. All suggested "rates per acre" included in this report are based on the active ingredient. For instance, if a product is marked as a fifty percent material and you wanted to use two pounds per acre of active ingredient, you would use four pounds of the fifty percent commercial product. Or in the case of a liquid, most of these products are labeled as containing two, three, or four pounds of active material per gallon, you would merely figure the liquid measure which would supply the number of pounds of active material wanted per acre.

5. All suggested "rates per acre" included herein are based on treating the entire acre, 43,560 square feet. If you plan a band application, the amount of herbicide used would be reduced in proportion to the actual area treated.

6. Calibration of application equipment is essential. Check specific manufacturer's recommendations and follow them carefully to assure that the correct amount of herbicide is applied.

7. In spray applications, the volume of water to use per acre will vary with the different chemicals and formulations. Most wettable powder herbicide formulations require greater spray tank agitation than is normally provided in a "low gallonage sprayer".

8. Successful use of granular herbicides involves careful calibration for each herbicide and maintaining the "flowability" of the granulars through careful storage and handling.

9. When using 2,4-D or 2,4,5-T, be sure that these materials are applied in such a way as to avoid damage to adjacent crops, whether on your farm or adjacent farms.

10. Clean spray tank and boom after each use of herbicide sprayer. Use a separate sprayer for 2,4-D and 2,4,5-T since it is very difficult to remove all traces of these chemicals from a sprayer.

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COMMON AND/OR TRADE NAMES OF CHEMICALS SUGGESTED FOR USE IN WEED CONTROL IN VEGETABLE CROPS IN OHIO FOR 1960, WITH SOME GENERAL INFORMATION ON USE*

Chemical	Type**	Vegetable crops	Pre-emergence crop	Post-emergence crop	Remarks weed control
Alanap (NPA)	1	cucumber	X	-	Annual weeds
		muskmelon	X	-	
Atrazine	1	sweet corn	X	-	Annual weeds
Chloro IPC	1	lettuce	X	-	Annual weeds
		onion	X	X	except lambs-
		spinach	X		quarters
Dowpon (dalapon)	2	asparagus	X	-	Annual and
		potato (white skin)	pre-planting	-	perennial grasses
Dow Premerge or		lima bean	X	-	Annual weeds
Simox PE	2 or 1	snap bean, potato	X	-	
(dinitro, amine)		sweet corn	X	-	
Telvar (monuron)	1	asparagus	X	-	Annual weeds
Sesone	1	asparagus	X	-	Annual weeds
		potato	X	-	
Simazine	1	sweet corn	X	-	Annual weeds
Sodium TCA	2 or 1	beet, cabbage	X	-	Annual
		cauliflower	X	-	grasses
Stoddard Solvent	3	beet, onion	X	-	
		carrot, dill	X	X	Annual weeds
		celery seedling	X	X	
		parsley, parsnip	X	X	
		spinach	X	-	
Randox (CDAA)	1	lima bean	X	-	
		onion	X	X	Annual
		snap bean	X	-	grasses
		sweet corn	X	-	
Randox T (CDAA+TCBC)	1	sweet corn	X	-	Annual weeds
2,4-D (LV ester)	2 or 1	sweet corn	X	-	Annual and
2,4-D (amine salt)	2 or 1	sweet corn	-	X	perennial broadleaf weeds
Vegadex (CDEC)	1	cabbage, cauliflower	X	X	
		broccoli	X	X	Annual weeds
		collards, kale	X	-	
		spinach, lettuce	X	-	
		celery	-	X	

*Read the label on the container and be sure that the proposed use has been approved. Use information on 1960 labels only.

**1. Chemical must be applied on soil surface before weeds have emerged.
2. Chemical should be applied on small weed seedlings and residue on soil may provide some control of later emerging weeds.
3. Spray must be applied on small weed seedlings and the chemical has no residual effect on later emerging seedlings.

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Suggested Chemical Weed Control Practices with Vegetable Crops. Ohio 1960.

Crops	Herbicides	Time of Application	Rate per Acre	Remarks
Asparagus	monuron (Telvar)	Before or after cutting season.	1 lb on light soils 2 lb on heavy soils or muck.	Apply on moist soil. Excellent annual weed control.
	2,4-D (LV ester)	Before or after cutting season.	½ lb on light soils, 1 lb on heavy soils or muck.	Good control of broadleaf annual and perennial weeds. Use before shoots appear.
	Sesone	Right after spring or summer discing.	4 lb on light soils to 6 lb on heavy soils or muck.	Soil must be moist, with no weeds emerged at time of spraying.
	dalapon (Dowpon)	Before shoots appear after spring or summer discing.	5 to 10 lb in at least forty gallons of water.	Excellent control of emerged annual and perennial grasses, particularly quackgrass.
Bean, snap and lima	Dinitro (amine)	Just prior to bean emergence.	3 lb on light soils to 6 lb on heavy soils.	Annual weed control. Use lower rates on snap beans.
	CDAA (Randox)	At time of planting or two days after planting.	4 to 6 lb.	Good annual grass control.
Beet (garden)	Stoddard Solvent	Just prior to beet emergence.	60 gallons, undiluted.	Weeds must have emerged at time of spraying.
	Sodium TCA	Prior to beet emergence	4 to 6 lb.	Annual grass control.
Cabbage Cauliflower	Sodium TCA	Prior to crop emergence	4 to 6 lb.	Annual grass control.
	CDEC	At time of planting	2 to 4 lb.	Annual weed control. Must be applied before weeds have emerged.
	(Vegadex)	or after transplants established.	2 to 4 lb.	
Lettuce	Chloro IPC	Prior to crop emergence	3 to 4 lb.	Muck soil only.
	CDEC (Vegadex)	same as above	2 to 4 lb.	Annual weed control.

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Crop	Herbicide	Time of Application	Rate per Acre	Remarks
Carrot, dill parsnip, parsley	Stoddard Solvent	Prior to crop emergence or at 2 to 4 leaf stage.	40 to 80 gallons, undiluted.	Annual weed control except ragweed.
Celery (seedling)	Stoddard Solvent	Young seedlings 2 leaf stage	60 gallons, undiluted.	Annual weed control.
Celery	CDEC (Vegadex)	After plants are well established.	2 to 4 lb.	Annual weed control.
Onion	Chloro IPC	Just prior to emergence of onions.	6 lb.	Use on muck soil only.
		Apply as a directed spray after onions have emerged. Can be applied two to three times during season. Last spray must precede onion harvest by at least 30 days.	3 to 4 lb.	Onions must be cultivated and hand-weeded just prior to use of Chloro IPC. Use 80 to 100 gallons of water/acre. Granular applications can also be used.
	CDAA (Randox)	Apply as a directed spray or granular application after onions are well established.	3 to 4 lb.	Good control of annual grasses.
Potato	Dinitro (amine)	Just prior to emergence of potatoes.	3 to 6 lb.	Do not disturb soil until new flush of weeds are noted after treatment.
Spinach	Stoddard Solvent	Prior to emergence of spinach.	60 gallons,	Weeds must be up at time of spraying.
	Chloro IPC	same as above	2 lb.	Should be applied before weed emergence.
	CDEC (Vegadex)	At time of planting	2 to 4 lb.	Annual weed control.

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Crop	Herbicides	Time of Application	Rate per Acre	Remarks
Sweet corn	Simazine	At time of planting.	2 lb.	Good control, annual weeds.
	Atrazine	At time of planting.	2 lb.	as above
	2,4-D (LV ester)	Prior to emergence of sweet corn.	½ to 1 lb.	Damage to corn possible on light sandy soils when heavy rain follows treatment.
	Dinitro (Amine)	same as above	3 to 6 lb.	same as above
	CDAA (Randox)	At time of planting.	4 lb.	Control of annual grass.
	Randox-T CDAA and TCBC	At time of planting.	4½ quarts in 20 to 30 gallons water	Control of annual weeds.
	2,4-D (amine)	Apply at emergence or until corn is two to three inches high	¼ to ½ lb.	This treatment should be used only when temperature has been less than 65° F. average. Do not use on North Star.
		or		
		Apply as a directed spray after corn is more than 6 to 10 inches tall. Use drop-pipes and adjust nozzles so as to avoid spray contact with corn.	¼ to ½ lb.	Avoid spraying corn foliage as much as possible. Avoid spraying corn when average temperature has been 70° to 75° F. for four or five days.
Cucumbers, melons	NPA (Alanap)	Apply one or two days after planting the crop.	4 to 6 lb.	Annual weed control. Do not use with very early plantings, when soil is cold & wet.

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Volume of water to use with various herbicides: While lesser volumes of water can be used to apply certain herbicides, we would recommend that a minimum of 20 gallons per acre be used for spray applications of herbicides. In most cases you will find that 30 to 40 gallons of water per acre will make for a more uniform coverage and ease of application. When applying dalapon to emerged stands of quackgrass and other grasses, 60 to 80 gallons of water per acre will provide a more thorough wetting of grass foliage than is usually possible with a lower gallonage.

Spray tank agitation: When wettable powders such as Atrazine, Simazine, and Telvar are used, it is essential to supply adequate spray tank agitation to keep these chemicals in suspension.

Simazine and Atrazine: These two chemicals have been added to the list of recommended pre-emergence treatments for sweet corn. Under usual rainfall conditions encountered in Ohio during the May and June period, simazine will control most annual weeds through the entire season. Under dry soil conditions, atrazine will be somewhat more effective than simazine.

Eptam (EPTC): This material during the 1959 season provided excellent weed control in potatoes when used as a pre-planting and as a directed post-emergence treatment at a four-pound per acre rate. This material will be available for limited trial during the coming season on potatoes.

Vegadex (CDEC): This chemical has been recommended as a pre-emergence treatment on sixteen vegetable crops and as a post-emergence treatment on at least six other vegetables. Research results with this compound have been variable during the past four years. Crop injury has been of minor concern when this chemical was used as recommended, but weed control has varied from excellent to very poor. Adequate soil moisture after the application and use only when temperatures are below 80° F. contribute markedly to good results with this compound. Light irrigation, after application, to maintain adequate surface soil moisture is usually beneficial.

Quackgrass (Agropyron repens) can be controlled on non-crop land with: Sodium TCA at 30 to 40 pounds per acre; Dalapon at 10 to 20 pounds per acre; Amino triazole at 5 to 7½ pounds per acre; or Maleic hydrazide at 15 to 20 pounds per acre. All of these treatments should be applied with about 100 gallons of water per acre on vigorously-growing quackgrass in early spring or early fall. Approximately ten days or two weeks after treatment the area should be spaded or plowed under. Dalapon treatments at the rate of 10 pounds per acre applied in early spring on four- to six-inch growth of quackgrass, followed by plowing two weeks later, has tended to minimize trouble with this weed on sweet corn and white-skin potato variety plantings.

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